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10/622,024	07/17/2003	Andreas Schroter	56/408	1679

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EXAMINER

SCHINDLER, DAVID M

ART UNIT	PAPER NUMBER
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2862

DATE MAILED: 03/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

10/622,024

Applicant(s)

SCHROTER ET AL.

Examiner

David Schindler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
 Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

1. Claims 1, 11, 13, and 14 are objected to because of the following informalities:

As to Claims 1, 11, and 14,

The phrase "direction and area" on line 11 of Claim 1, 11 of Claim 11, and line 12 of Claim 14 appears to be incorrect and it is recommended to change this phrase to "direction and are."

As to Claim 13,

Claim 13 recites "a third material" on line 2 and "a fourth material" on line 3. It is unclear if the first base body (from Claim 12) and the second base body are made out of the same material or if they are made out of different material.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-7 and 10-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Spies (5,734,266).

As to Claim 1,

Spies discloses a first base body (70) including a first non-magnetizable support (71), and a first set of magnetic elements (the magnets of the base body (70)) that are arranged laterally next to the first non-magnetizable support (Figure 5), are magnetized in a single identical direction and are arranged in a measuring direction

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(Figure 5), a second base body (60) includes a second non-magnetizable support (61), and a second set of magnetic elements (the magnets of the base body (60)) that are arranged laterally next to the second non-magnetizable support (Figure 5), are magnetized in the single identical direction and are arranged in the measuring direction (Figure 5), and wherein the first base body and the second base body are put together such that in the measuring direction alternating ones of the first and second sets of magnetic elements are arranged and the first and second sets of magnetic elements have different magnetic orientations with respect to each other ((Figure 5) and (Column 2, Lines 40-44) and (Column 1, Lines 60-67) and (Column 2, Lines 1-3) and (Column 3, Lines 46-49) and (Column 5, Lines 5-13)).

Examiner is interpreting the supports (61) and (71) of Figure 5 to be non-magnetizable as the supports of Figures 1-3 are non-magnetizable (Column 3, Lines 46-49) and Figure 5 is merely used to describe the combination of Figures 1-3 in greater detail (Column 2, Lines 40-44).

As to Claim 2,

Spies discloses the first base body (70) comprises a first set of spaces defined between the first set of magnetic elements (the magnets of the base body (70)) and the second set of magnetic elements (the magnets of the base body (60)) are inserted into each one of the first set of spaces (Figure 5) and (Column 5, Lines 5-13)).

As to Claim 3,

Spies discloses the first and second base bodies each have an identical geometry and magnetization (Figure 5).

As to Claim 4,

Spies discloses the first set of magnetic elements (the magnets of the base body (70)) are arranged on a first set of tracks (Figure 5), wherein the first set of tracks, viewed vertically with respect to the measuring direction, are arranged spaced apart from each other by a space, and wherein the first non-magnetizable support and the second non-magnetizable support are arranged in at least the space ((Figure 5) and (Column 5, Lines 5-13)).

Please note magnet (73) relative to the other magnets.

As to Claim 5,

Spies discloses the first set of tracks are concentric with one another and the first and second non-magnetizable supports are arranged in the form of concentric rings between two of the first set of tracks (Figure 5).

Please note the ring pieces of support (61) in between the magnets and again please note magnet (73) relative to the other magnets.

As to Claim 6,

Spies discloses the first and second sets of magnetic elements are magnetized along an axis of symmetry of the scale (Figure 5).

As to Claim 7,

Spies discloses each of the first set of magnetic elements comprises a plastic-bonded hard magnetic material (Column 6, Lines 65-67).

As to Claim 10,

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Spies discloses the first non-magnetizable support is made of a castable (injection molding), non-magnetizable material (plastic), and the first set of magnetic elements comprise a castable magnetic material (Column 3, Lines 17-53).

As to Claim 11,

Spies discloses providing a first base body (70) including a first non-magnetizable support (71), and a first set of magnetic elements (the magnets of the base body (70)) that are arranged laterally next to the first non-magnetizable support (Figure 5), are magnetized in a single identical direction and are arranged in a measuring direction (Figure 5), providing a second base body (60) includes a second non-magnetizable support (61), and a second set of magnetic elements (the magnets of the base body (60)) that are arranged laterally next to the second non-magnetizable support (Figure 5), are magnetized in the single identical direction and are arranged in the measuring direction (Figure 5), and combining the first base body with the second base body by sticking them together such that in the measuring direction alternating ones of the first and second sets of magnetic elements are arranged and the first and second sets of magnetic elements have different magnetic orientations with respect to each other ((Figure 5) and (Column 2, Lines 40-44) and (Column 1, Lines 60-67) and (Column 2, Lines 1-3) and (Column 3, Lines 46-49) and (Column 5, Lines 5-13)).

Examiner is interpreting the supports (61) and (71) of Figure 5 to be non-magnetizable as the supports of Figures 1-3 are non-magnetizable (Column 3, Lines 46-49) and Figure 5 is merely used to describe the combination of Figures 1-3 in greater detail (Column 2, Lines 40-44).

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As to Claim 12,

Spies discloses the first base body is produced by a dual injection-molding process by injecting a first material constituting the first support onto a second material that constitutes the first set of magnetic elements ((Column 3, Lines 17-53) and in particular (Column 3, Lines 47-53)).

As to Claim 13,

Spies discloses the second base body is produced by a dual injection-molding process by injecting a third material constituting the second support onto a fourth material that constitutes the second set of magnetic elements ((Column 3, Lines 17-53) and in particular (Column 3, Lines 47-53)).

It is noted that the cited columns describe the dual injection-molding process for a single base body, but as Figure 5 requires two base bodies, this process would be used for the both the first and second base bodies.

As to Claim 14,

Spies discloses a scale (index disk / Column 5, Line 5) including a first non-magnetizable support (71), and a first set of magnetic elements (the magnets of the base body (70)) that are arranged laterally next to the first non-magnetizable support (Figure 5), are magnetized in a single identical direction and are arranged in a measuring direction (Figure 5), and a second base body (60) includes a second non-magnetizable support (61), and a second set of magnetic elements (the magnets of the base body (60)) that are arranged laterally next to the second non-magnetizable support (Figure 5), are magnetized in the single identical direction and are arranged in the

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measuring direction (Figure 5), and wherein the first base body and the second base body are put together such that in the measuring direction alternating ones of the first and second sets of magnetic elements are arranged and the first and second sets of magnetic elements have different magnetic orientations with respect to each other ((Figure 5) and (Column 2, Lines 40-44) and (Column 1, Lines 60-67) and (Column 2, Lines 1-3) and (Column 3, Lines 46-49) and (Column 5, Lines 5-13)), and a scanning element (200), which is sensitive to a magnetic field, for scanning the first and second sets of magnetic elements ((Column 4, Lines 1-7) and (Column 5, Lines 14-15) and (Figure 6)).

Examiner is interpreting the supports (61) and (71) of Figure 5 to be non-magnetizable as the supports of Figures 1-3 are non-magnetizable (Column 3, Lines 46-49) and Figure 5 is merely used to describe the combination of Figures 1-3 in greater detail (Column 2, Lines 40-44).

As to Claim 15,

Spies discloses a second scale, a reduction gear that drives both the scale (index disk) and the second scale (index disk) in a manner in which they are geared down in relation to each other, a driveshaft coupled to the reduction gear, wherein the position measuring system is a multi-turn angle encoder for measuring an absolute position of the driveshaft over several revolutions (Column 5, Lines 22-30).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spies (5,734,266) in view of Schwabe (6,717,401).

Spies discloses as explained above.

Spies does not disclose the hard magnetic material is defined by the group consisting of neodymium-iron-boron, samarium-cobalt or a ceramic magnetic material.

Schwabe discloses the hard magnetic material is defined by the group consisting of neodymium-iron-boron, samarium-cobalt or a ceramic magnetic material (Column 5, Lines 48-52).

It would have been obvious at the time of the invention to modify Spies to include the hard magnetic material is defined by the group consisting of neodymium-iron-boron, samarium-cobalt or a ceramic magnetic material as taught by Schwabe in order to use a permanent magnetic alloy (Column 5, Line 51).

4. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Spies (5,734,266) in view of Kitaori (JP06103552).

Spies discloses as explained above.

Spies does not disclose the first non-magnetizable support is made of

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polyamide.

Noriyuki discloses the first non-magnetizable support is made of polyamide (Abstract, Lines 4-6).

It would have been obvious at the time of the invention to modify Spies to include the first non-magnetizable support is made of polyamide as taught by Noriyuki in order to provide strong support.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: U.S. Pat No. 4,274,053 to Ito et al. which discloses detecting an absolute value of an angular displacement using magneto-resistors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Schindler whose telephone number is (571) 272-2112. The examiner can normally be reached on M-F (8:00 - 5:00).

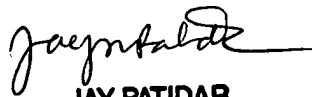
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Lefkowitz can be reached on (571) 272-2180. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



David Schindler



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PRIMARY EXAMINER